Docket No.: 10964-043003 Client's Ref. No.: 629



Other embodiments are in the claims.

What is claimed is:

CLAIMS

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A composition, comprising:

a catalyst; and

a non-electrolytic material different than the catalyst,

wherein the datalyst and the non-electrolytic material compose a fuel cell electrode.

- 2. The composition of claim 1, wherein the catalyst is capable of catalyzing oxidation of a fuel cell gas.
 - 3. The composition of claim 2, wherein the fuel cell gas comprises hydrogen.
 - 4. The composition of claim 1, wherein the catalyst is capable of undergoing reversible oxide formation.
 - 5. The composition of claim 1, wherein the catalyst is selected from a group consisting of platinum, ruthenium, iridium, rhodium, palladium, molybdenum and alloys thereof.
 - 6. The composition of claim 1, wherein the composition comprises between about 5 percent to about 40 percent of the catalyst.
 - 7. The composition of claim 1, wherein the composition comprises less than about 30 percent of non-electrolytic material by weight.
- 8. The composition of claim 1, wherein the non-electrolytic material comprises a fluorine-containing resin.
- 9. The composition of claim 1 wherein the non-electrolytic material comprises a copolymer of tetrafluoroethylene and hexafluoropropylene.
- 10. The composition of claim 1, wherein the non- electrolytic material comprises polytetrafluoroethylene.

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- 11. The composition of claim 1, further comprising:
 a first material resistant to oxidation up to about 3.0 Volts vs. SHE.
- 12. The composition of claim 11, wherein the catalyst is distributed on the first material.
 - 13. The composition of claim 11, wherein the catalyst is distributed on the first material with a load between about 5 percent and about 95 percent.
 - 14. The composition of claim 11, wherein the first material comprises an oxide.
 - 15. The composition of claim 11, wherein the first material is selected from a group consisting of tungsten oxide, zirconium oxide, niobium oxide, and tantalum oxide.

16. A composition, comprising:

a catalyst; and

a first material resistant to oxidation up to about 3.0 Volts vs. SHE, wherein the catalyst and the first material compose a fuel cell electrode.

- 17. The composition of claim 16, wherein the catalyst is distributed on the first material.
- 18. The composition of claim 16, wherein the catalyst is distributed on the first material with a load between about 5 percent and about 95 percent.
 - 19. The composition of claim 16 wherein the first material comprises an oxide.
- 20. The composition of claim 16, wherein the first material is selected from a group consisting of tungsten oxide, zirconium oxide, niobium oxide, and tantalum oxide.
 - 21. A composition, comprising:
 - a catalyst capable of catalyzing oxidation of a fuel cell gas;
 - a first material resistant to oxidation up to about 3.0 Volts vs. SHE; and

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a non- electrolytic material,

wherein the catalyst, the first material, and the non-electrolytic material compose a

6 I fuel cell electrode.

22. The composition of claim 21, wherein the catalyst comprises platinum.

23. The composition of claim 21, wherein the first material comprises an oxide.

24. The composition of claim 21, wherein the non- electrolytic material comprises

polytetrafluoroethylene.

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